

GERO 655: Research Training Grant Proposal Development in Gerontology

Fall 2018: Monday 12-2:50

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Office hours: GER 346D, Monday 3-4 pm and by appointment

Readings will be made available weekly on Blackboard.

Overview: The purpose of this 4-unit course is to provide an integrative view of grant proposal writing in gerontology. Topics highlight issues and applied problems in gerontology as studied by biomedical, psychological, and social scientists. They include the links between health changes, social phenomena, behavior, and adaptation, with a focus on the commonalities as well as the distinctions across methods, questions, and conclusions. Translational approaches will be highlighted. Students will write and present one to two grant proposals that will be submitted to NIH or NSF.

Objectives: Students learn how to put together multidisciplinary grant proposals related to gerontology. The course consists of a series of workshops and presentations on grant writing and putting together collaborative, interdisciplinary projects. It is expected that students will develop sufficient grant writing and preparation skills that they will be prepared to submit a proposal to a Federal agency for their research within 6 months of completing the course.

Background readings and class notes will be posted on Blackboard.

<https://blackboard.usc.edu/>

Course Requirements:

1. Because discussions are the centerpiece of the course, attendance is *required*. 5% of the final grade is based upon attendance; 5% is based on contribution to discussions.
2. Grant proposal preparation is complex and has many subactivities. Homework assignments constitute these elements: biosketch, project summary or abstract, specific aims or equivalent, significance, innovation, methods, data analysis, environment, human subjects, budget and budget justification.
3. Students will prepare the final grant proposal and give a 30 min presentation with visual aids based on that proposal. An outline of the proposal with a bibliography will be presented in class, a complete draft of the proposal, and a final proposal will be written and submitted for mock review. Presentations of the final proposal will be during the last 2 classes.

The estimated amount of time to prepare the proposal is 100 hours, and the presentation an additional 20 hours. Grant proposal preparation includes coming up with the ideas for the study, searching bibliographic databases, carefully and thoroughly reading potential

references, writing of drafts, editing, and removing irrelevant information. Grading will reflect the level of preparation and integration, as well as the strength of the proposal and the clarity of the writing.

Grant Proposal Format.

The proposal format is based on the NIH proposal guidelines but is easily adapted for other Federal agencies and private foundations.

1. The first and major component is a **Project Summary**. It is meant to serve as a succinct and accurate description of the proposed work when separated from the application. State the application's broad, long-term objectives and specific aims, making reference to the health relatedness of the project (i.e., relevance to the mission of the agency). Describe concisely the research design and rationale and techniques for achieving the stated goals. This section should be informative to other persons working in the same or related fields and insofar as possible understandable to a scientifically or technically literate reader. Avoid the use of the first person. (Should be about ½ page single spaced.)

2. Specific Aims. State concisely the goals of the proposed research and summarize the expected outcome(s), including the impact that the results of the proposed research will exert on the research field(s) involved. List succinctly the specific objectives of the research proposed, e.g., to test a stated hypothesis, create a novel design, solve a specific problem, challenge an existing paradigm or clinical practice, address a critical barrier to progress in the field, or develop new technology. (**Specific Aims are limited to one page**).

3. Research Strategy

Organize the Research Strategy in the specified order and using the instructions provided below. Start each section with the appropriate section heading—Significance, Innovation, Approach. Cite published experimental details in the Research Strategy section and provide the full reference in the Bibliography and References Cited section. (**Research Strategy is limited to 12 pages**).

(a) Significance

- Explain the importance of the problem or critical barrier to progress in the field that the proposed project addresses.
- Explain how the proposed project will improve scientific knowledge, technical capability, and/or clinical practice in one or more broad fields.
- Describe how the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field will be changed if the proposed aims are achieved.

(b) Innovation

- Explain how the application challenges and seeks to shift current research or clinical practice paradigms.
- Describe any novel theoretical concepts, approaches or methodologies, instrumentation or intervention(s) to be developed or used, and any advantage over existing methodologies, instrumentation or intervention(s).
- Explain any refinements, improvements, or new applications of theoretical concepts, approaches or methodologies, instrumentation or interventions.

(c) Approach

- Describe the overall strategy, methodology, and analyses to be used to accomplish the specific aims of the project. Include how the data will be collected, analyzed, and interpreted as well as any resource sharing plans as appropriate.
- Discuss potential problems, alternative strategies, and benchmarks for success anticipated to achieve the aims.
- If the project is in the early stages of development, describe any strategy to establish feasibility, and address the management of any high risk aspects of the proposed work.
- Point out any procedures, situations, or materials that may be hazardous to personnel and precautions to be exercised.

Preliminary Studies for New Applications. For new applications, include information on Preliminary Studies as part of the Approach section.

4. Bibliography and References Cited (No page limitations)

Provide a bibliography of any references cited in the Research Plan. Each reference must include names of all authors (in the same sequence in which they appear in the publication), the article and journal title, book title, volume number, page numbers, and year of publication. Include only bibliographic citations. Follow scholarly practices in providing citations for source materials relied upon in preparing any section of the application.

The references should be limited to relevant and current literature. While there is not a page limitation, it is important to be concise and to select only those literature references pertinent to the proposed research.

Other guidelines and course requirements

We will review progress in proposal development every week. *Development* of grant writing skills is an important goal of the course.

Homework Assignments: Written assignments include biosketches,

Planned Proposal Presentation. This will be a 10-minute presentation of your planned research hypothesis and studies for your proposal. You should convince the class of the significance of

your research problem, briefly outline previous research on the topic, and describe your hypothesis and planned research design.

Final Presentations. A 30 min professional level talk that present the research question, the methods proposed to answer the question and predicted findings. Visuals using Powerpoint or a similar program are required. *Only the highlights* of the written proposal will be presented.

Grading: Homeworks: 25% Final Proposal Presentation 30%; Final Written Proposal 40%; Participation 5%

Statement for Students with Disabilities. Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me (or to the TA) as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m.–5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776.

Academic Conduct:

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Part B, Section 11, “Behavior Violating University Standards” policy.usc.edu/scampus-part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, <http://policy.usc.edu/scientific-misconduct>.

Support Systems:

Student Counseling Services (SCS) – (213) 740-7711 – 24/7 on call

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

engemannshc.usc.edu/counseling

National Suicide Prevention Lifeline – 1 (800) 273-8255

Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. www.suicidepreventionlifeline.org

Relationship and Sexual Violence Prevention Services (RSVP) – (213) 740-4900 – 24/7 on call

Free and confidential therapy services, workshops, and training for situations related to gender-based harm. engemannshc.usc.edu/rsvp

Sexual Assault Resource Center

For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: sarc.usc.edu

Office of Equity and Diversity (OED)/Title IX Compliance – (213) 740-5086

Works with faculty, staff, visitors, applicants, and students around issues of protected class. equity.usc.edu

Bias Assessment Response and Support

Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. studentaffairs.usc.edu/bias-assessment-response-support

The Office of Disability Services and Programs

Provides certification for students with disabilities and helps arrange relevant accommodations. dsp.usc.edu

Student Support and Advocacy – (213) 821-4710

Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. studentaffairs.usc.edu/ssa

Diversity at USC

Information on events, programs and training, the Diversity Task Force (including representatives for each school), chronology, participation, and various resources for students. diversity.usc.edu

USC Emergency Information

Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible. emergency.usc.edu

USC Department of Public Safety – UPC: (213) 740-4321 – HSC: (323) 442-1000 – 24-hour emergency or to report a crime.

Provides overall safety to USC community. dps.usc.edu

Preliminary schedule:

August 20

Introductions/Assignments; Presentation of student goals, deadlines, and grant ideas

August 27

An overview of Federal grants: grants.gov

Grants programs

Workshop: find a grant opportunity announcement from grants.gov that applies to your plans

Developing high-impact programmatic research

Homework: lit review of area you wish to research (initial draft due Sept 12)

September 10

Group discussions of research ideas;

Overcoming the fear of writing

Homework: NSF Biosketch due next week

Homework review
Developing a research program

NSF guidelines and review

September 17

Biosketches: NIH and NSF
Homework: NSF and NIH Biosketches due next week

September 24

Homework review
NIH guidelines & review criteria
Proposal Writing Tips
Homework: continue lit review: long term research goals

October 1

NIH Significance/NSF present state of knowledge, work in progress
Homework: specific aims/present state of knowledge
Homework review

October 8

NIH Innovation/NSF justification
NIH Research Strategy Approach ; NSF Methods & Procedures
Homework: innovation/justification; research strategy approach; methods and procedures

October 15

Homework review
Training plan
Work plan development
Homework: training plan

October 22

Continuation of development of research & training plans
Homework review
Data Analysis
Homework: Data analysis plan

October 29

Continuation of development of research & training plans

Homework review
Budget & budget justification
Homework: 3-yr budget and justification

November 5

NIH Project Summary, NSF Project Summary

Homework review

Draft of proposal due for in-class critiques

Homework: NIH Project Summary, NSF Project Summary

November 12

Homework review; meeting page limitations

November 19

Full proposal due

Presentations**November 26****Presentations**

Readings:

Most of the material read for this course is individualized to the student's actual proposal. In addition, online resources through grants.gov are identified, as well as publicly available information and forms for proposal applications.

Career development instructions for NIH and other PHS agencies (revised June 10, 2016)

Biosketch sample k and r awards forms (approved through 10/31/2018)

Biosketch instructions forms D

Fellowship instructions for NIH and other PHS agencies (revised June 10, 2016)\

Instructions for fellowship applicant referees

Referee instructions for mentored research career development awards

LRP FY 2013 data book: Extramural loan repayment programs NIH Division of Loan Repayment

NIH R36 review template

NIH K series review template

NIH F series review template

NIH RPG critique template

NIH Scoring system and procedure

NSF GRFP Social Sciences

NSF GRFP Tips

Report to the National Science Board on the National Science Foundation's Merit Review

Process FY 2012 (NSB 13-33)

National Science Foundation Proposal and award policies and procedures guide
Robin Walker NSF GRFP guidelines
Sample NSF GRPF proposals

WH Kellogg foundation Evaluation handbook